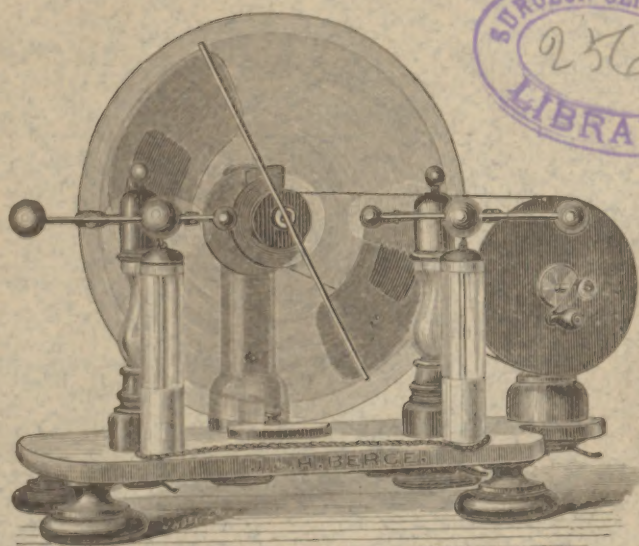


*Is a test (the) improved Holtz -
No 3*

THE LATEST IMPROVED
**HOLTZ ELECTRICAL
MACHINES.**



SEE PAGE SEVEN FOR MEDICAL MACHINES.

J. & H. BERGE,
MANUFACTURERS,

Nos. 191 Greenwich Street and 95 John Street,
NEW YORK.

April, 1881.

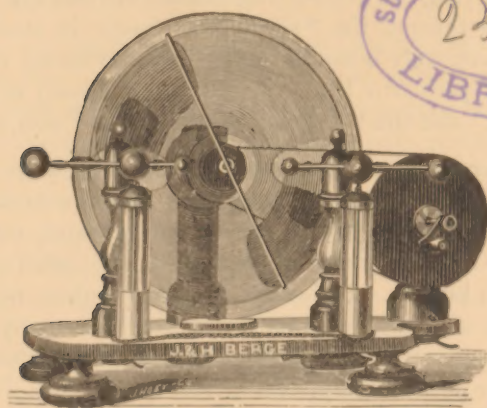
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STEPHEN MEARNES,
PRINTER,
73 BARCLAY STREET,
NEW YORK.

SEE PAGE SEVEN FOR MEDICAL MACHINES.

THE LATEST Improved Holtz Induction Electrical Machine.

**Giving Long, Rapid, and Intensely Brilliant
Discharges of Electricity, and work-
ing well in all weathers.**



THESE Most Excellent and Beautiful Electrical Machines have been recently much improved in style and workmanship, adding to their efficiency and beauty of appearance. We can, therefore, now call them (we think justly), "OUR PERFECTED HOLTZ."

We respectfully invite a careful inspection of their merits. Our improved form of these machines has solicited the unqualified approval and admiration of the many eminent scientific men who have used and examined them, and are conceded to be the BEST in respect

to correctness of principle, simplicity and thoroughness of construction, efficiency of performance and elegance of appearance, that are made, either in this Country or Europe.

Our Holtz Machines will, in nearly every instance, (during the winter time especially,) retain their charge of electricity from twelve to twenty-four hours without re-exciting, and have been known to remain charged even a much longer time. (See foot note on page 2).

They are very easily charged by simply exciting a piece of vulcanite, (which accompanies each machine,) which is done by rubbing it over a catskin, and then touching one of the paper inductors on the stationary plate, at the same time rotating the front plate.

The prime conducting balls are so arranged that they can be readily taken off and on, and it is found that by passing the discharge between the two largest balls the most vividly brilliant spark is produced; while by using one large and one small ball, the longest and quickest discharge may be made; but the best average effect can be obtained by passing the discharge between the two smaller balls. By simply removing the connecting chain between the two intensifying jars, what is termed the "silent" discharge is made. This produces a most delicately beautiful effect in a darkened room, and can be modified at pleasure into various forms, such as "the glow," "brush shaped," and the "interlaced" discharge," etc., etc.

All of the numerous experiments usually tried with the old Frictional Electrical Machines, together with many others which could not be illustrated at all with the Frictional Machine, can be performed with the use of our Improved Holtz Machine, with greatly heightened effect and beauty. Geissler's, or vacuo tubes, of all sizes and varieties can be shown as well with this Machine, as by using a large and costly Ruhmkorff coil, (sometimes to better advantage than with a coil). Proper adjusting apparatus for connecting Geissler tubes, etc., accompany every machine. When connecting such apparatus as "Electrical Umbrellas," "Electrical Orreys," "Fliers," etc., push the discharging balls as far apart as possible and connect the chain or wire with one only. The revolving glass plate should always be rotated *towards* the induction points, and never *from* them. Our Single-Revolving-Plate Machine gives a very intense spark, fully as long as one-half the diameter of the revolving plate.

In VAN BRUNT'S double-plate Machines the spark given is considerably longer than this proportion. We have constructed at the special order of a well-known gentleman of scientific tastes in this city, a very fine and beautifully-made Double-Plate Machine, which

is undoubtedly the largest and finest "Holtz Machine" in the world, it having revolving disks forty inches in diameter, and stationary plate forty-six inches in diameter. We are prepared to make special estimates for any sizes or number of these machines *to order*.

It would be impossible for us to enumerate in this connection, even briefly, the large number of beautiful and interesting, as well as instructive, experiments which can be exhibited with the aid of this truly marvelous machine; yet we will mention a few which may appear almost incredible to those unacquainted with them, but which, nevertheless, have been actually performed. The spark has pierced and broke large cubes of glass three and four inches in diameter, and rends solid cubes of boxwood, decomposes water, charges Ruhmkorff coil, renders carbon points incandescent, will heat platinum wire, fire gunpowder, light and discharge gases, etc., etc.

A very large amount of ozone is constantly evolved while the machine is in operation, which may be collected by using an "Ozonometer," (which we describe under "Ozonometers" in our catalogue,) specially adapted for the purpose.

We are the only manufacturers of Van Brunt's Double-Plate Holtz Electrical Machine, with his "Continuous Charging Apparatus" attached, by means of which the machines are kept constantly charged, * and the crank only needs to be turned to produce a torrent of intensely brilliant sparks of electricity, giving simultaneously a loud report. We have one of these Double-Plate Machines, with two revolving disks, thirty-six inches in diameter, and condensing stationary disk forty inches in diameter, which gives in all weathers a "miniature lightning" discharge, (over twenty inches long) with a report as loud as that of a pistol. It is now on exhibition in our office, and we shall be pleased to show it to all interested visitors.

* N. B.—The above mentioned Van Brunt Machine has been set up and in constant use in our office, (without any case surrounding it), for over four years past, and what is *especially remarkable* has up to the present date (*i. e.* April 16, '81,) retained its charge since the middle of November last, and has given a brilliant high tension discharge nearly continuous over 17 inches long in the dampest of weather with no fire in the room.

Price-List of Our Latest Improved Perfected Holtz Machines.

These prices are for machines constructed in the *very best first-class style* and mounted on elegantly polished mahogany bases, with finely-finished metal work, etc., etc. Catskin and rubber included with all sizes. (For cheaper styles see next page.)

The measures given are the diameters of the revolving or front plate, which is two or three inches smaller in diameter than the back plate. (We mention this because the size is rated by the diameter of the *stationary plate*, by some other dealers.)

12 in.....	\$40 00
14 in.....	60 00
16 in.....	75 00
18 in.....	90 00
20 in.....	100 00
24 in.....	125 00
26 in.....	150 00
30 in.....	200 00

Van Brunt's Improved Double Plate Electrical Machine.

WITH HIS CONTINUOUS CHARGING APPARATUS ATTACHED.

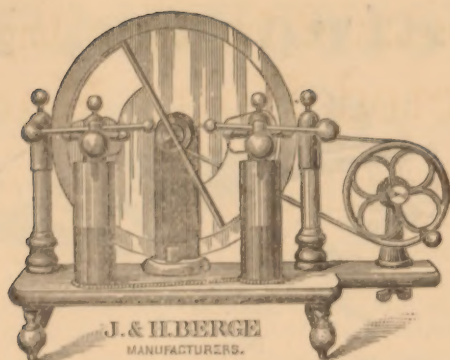
20 in.....	\$160.00
30 in.....	\$275 00
36 in.....	350 00

OTHER SIZES AND FORMS MADE TO ORDER.

Water or Steam Motors for running any of our Holtz Machines furnished to order, at manufacturers' prices.

DIRECTIONS FOR SETTING UP AND USING Our Perfected Holtz Induction Electrical Machines.

1. Place the back plate as shown in cut.
2. Set the back plate from three-sixteenths to one-quarter inch from the revolving plate.
3. Do not screw the back plate so tightly as to endanger its safety.
4. The revolving plate must be always turned towards the right.
5. Bring the brass combs as near the revolving plate as possible without touching.
6. The pulley cord can be easily adjusted by loosening the clamp underneath the supporting post of pulley-wheel and moving the part on the slot cut for that purpose.
7. The cross-arm should be so placed that its combs stand opposite the farther ends of the paper inductors on back plate.
8. Before starting the machine, see that it is perfectly clean and free from dust and moisture, and also please remember that much the best effects can be produced in a dry and warm room free from draughts of air.
9. In charging, have your catskin and vulcanite well dried and warm, and then while the machine is being turned, by drawing the charged piece of vulcanite slowly down one of the paper inductors on the back plate towards the points, it will at once become charged.
10. To produce the "silent" or "brush" discharge it is not necessary to remove the intensifying jars, as simply disconnecting one side of the connecting chain is all sufficient. *We carefully test each and every machine before sending.* Extra intensifying jars are sent with the larger machine.
11. Geissler's tubes can be shown to the best advantage if placed between the intensifying jars.



SPECIAL NOTICE.

We desire to call your attention to our acknowledged **excellent moderate-priced Holtz Machine**, of our **latest improved style**.

These Machines we devised in response to a universally expressed demand for a low-priced but effective Holtz Induction Electrical Machine, for the use of Schools with moderate means, Students, Amateurs, Experimentalists, etc., etc. We have sold large numbers of them in the United States and Canadas, to the perfect satisfaction of buyers (as we can show by numerous and unsolicited written testimonials).

We have lately much improved these Machines, and now have in stock two sizes, made in the most substantial and workmanlike manner, mounted on solid black walnut bases, (well seasoned). No. 1, or the "**Pony**" size, we offer at the low price of \$25.00, complete, with catskin and rubber. The revolving plate of this size is twelve inches in diameter, and the stationary plate is fourteen inches. It will give a six-inch spark.

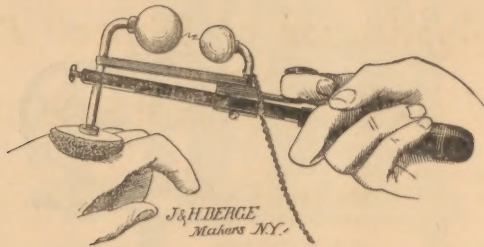
The No. 2, or "**Normal School**" size, has a revolving plate twenty inches in diameter, and stationary plate twenty-two and a-half inches, and will readily give a full, intense, nine-to-ten-inch spark. We offer these at the remarkably low price of \$50.00 each, *complete*.

The illustration at the top of this page is an accurate representation of these two Machines. For most uses these Machines will take the place of an Induction Coil. They can be safely packed and sent to any portion of the United States and Canadas.

The **low prices** of these Machines place them within the reach of all taking any interest in the marvelous Science of Electricity, and will prove a source of most interesting and instructive amusement.

Caution.—To avoid mistakes please notice that all the above mentioned Improved Holtz Machines have a metal plate with our name and address.

Electrodes, Etc.



No. 4.

No. 0.	Sharp brass point Electrode	\$ 3.00
No. 1.	One pair Sponges and Handles, well insulated for the Morton Current,	3.50
No. 2.	Two and one-quarter inch brass ball Electrode	4.00
No. 3.	One " " " "	3.00
No. 3.	Chain holder	2.50
No. 4.	Morton's Spark Electrode, (see cut)	12.00
No. 5.	Carbon Electrode, with round end	2.00
No. 6.	" " " sharp end	1.75
No. 7.	"Universal" bent end Electrode, with one detachable sponge end, brass ball, silver ball, and brass sharp point, complete	7.50
No. 8.	"Spinal" Roller Electrode	5.50
No. 9.	Wooden ball Electrode	2.00
No. 10.	" point "	1.75
No. 11.	Rubifacient "	3.00
No. 12.	Brass brush "	3.00
No. 13.	Ear Electrode, with one silver, brass and carbon ball	3.50
No. 14.	Brass catches and hooks	50c. ea.
No. 15.	" chain, large size	20c. yd.
No. 16.	" " small	15c. yd.
No. 17.	Cases for Electrodes, velvet lined, fine polished, with handles	\$6.50
No. 18.	Hall's New Medical Leyden Jars, A or small size per pr.	3.00
	" " " B " medium " "	4.00
	" " " C " large " "	5.00
	" " " D " extra " "	6.50
No. 19.	Brass hangers for jars	50c. ea.
No. 20.	Rubber " "	50c. ea.
No. 21.	Pelletier's Electrometer	\$8.50
No. 22.	Glass Insulators, for insulating at will, chairs, bedsteads, &c., made of glass, free from metallic oxides	50c. ea.
No. 23.	Adjustable connecting rod, of finely polished brass, French style, for insulated tables, each	\$5.50

The above prices are NET CASH.

OTHER SPECIAL FORMS OF ELECTRODES AND OTHER ELECTRO-MEDICAL APPARATUS, MADE TO ORDER.

ESTIMATES CHEERFULLY MADE.

Address,

J. & H. BERGE,

(Successors to HALL & BENJAMIN.)

No. 191 Greenwich Street, & 95 John Street, New York.

FRANKLINISM

— OR THE —

Medical Application of Statical Electricity.

Improved Holtz Electrical Machines for Medical Purposes.

We manufacture several sizes of these Machines, with **special adaptations** for the **Medical** Application of Statical Electricity, as used with great success by DR. WM. J. MORTON of this city, (and described by him in the *Medical Record*, April 2nd and 9th, 1881.)

We also make all the various Electrodes, Insulated Platforms, or Tables, and other necessary appliances.

We have already made several Medical Holtz Machines for some of the most eminent New York Physicians, and have devoted considerable time and attention to studying the special forms of apparatus and appliances needful for the successful administration of "**Statical**" **Electricity** in the treatment of various diseases. To further aid us in this direction, we have availed ourselves of the valuable advice and knowledge of DR. WM. J. MORTON, and other Electro-Medical specialists of high repute in this city.

Correspondence is invited from Medical Men on this subject.

We subjoin a partial list of our Improved Medical Holtz or Statical Electrical Machines, together with some of the accessory apparatus.

PRICES, Etc.

No. 1. Double Revolving Plate Medical Holtz Machine, twelve inches in diameter, on hard well-seasoned wood base, neatly and substantially finished, *complete*, \$60.00.

No. 2. The same as above but on stand or table, with two revolving plates fifteen inches in diameter, \$90.00.

No. 3. Same as last, with two revolving plates twenty inches in diameter, with self-charging apparatus, *complete*, \$150.00.

No. 4. Machine with quadruple revolving plates, fifteen inches in diameter, and two to three stationary plates, *complete* with stand and air-tight glass case, etc., etc., \$185.00.

No. 5. The same *complete*, with quadruple revolving plates, twenty inches in diameter, and three stationary plates, very handsomely mounted, on rollers, \$200.00.

Air-tight Glass Cases for any of the above Machines, from \$20.00 to \$50.00.

Larger sizes of Machines built to *special order*.

INSULATED TABLES OR PLATFORMS.

No. 1.	For One Chair.....	\$15.00
No. 2.	" two chairs.....	25.00
No. 3.	" three ".....	30.00
No. 4.	" four ".....	40.00

With every Machine we give one pair of Hall's New Medical Leyden Jars, and also attachments for giving the new Morton Induced Statical Current.

Special Notice.

For medical use we strongly recommend the **Double or Quadruple Revolving Plate "Van Brunt-Holtz"** machines, as **experience** has **proved** that they are the only machines which will work in **all kinds of weather**, and also furnish high **tension electricity** in **sufficient amount or quantity** to obtain the proper medical effects.

With the kind permission of Dr. Morton we present here a few interesting extracts from his valuable paper read before the New York Academy of Medicine, and published in the *Medical Record* on "Statical Electro-Therapeutics":

DR. MORTON'S ADDRESS.

Up to comparatively recent times frictional electricity for medical purposes was produced from a single glass wheel. Its tension was low and its quantity small. But the invention of Holtz, in 1865, marked out for modern static electricity the possibilities of a new career. In the Holtz machine we have an apparatus simple and durable in construction, and capable of furnishing electricity of high tension and in great quantity. And by means of the Leyden-jar condensers, and of the possibility of increasing the number of wheels, both tension and quantity are within the control of the operator. At a given length of spark or tension, every additional wheel adds only to the quantity, and Holtz machines, with as many as twenty revolving wheels, have been constructed, in which the quantity, of course, was very great. This very fact of a greatly increased working quantity of static electricity justifies the expectation that modern electro-static therapeutics will take a step greatly in advance of its past.

The machine which I have the pleasure of exhibiting to-night is a double Holtz, so-called. It has two stationary and two revolving wheels. Its condensers or Leyden-jars have about twenty-four inches each of tinfoil surface. It gives with ease, in all weathers, an eight-inch spark, and a large quantity.

By the discovery, in the Holtz machine, of a new current, which I shall describe later, it may be also used in all instances in which the ordinary faradic and magneto-induction coils are now used. Thus, a single machine combines franklinism and faradism.

Thus far, in describing the methods of administering static electricity for medical purposes from the induction electrical machine, I have confined myself to what has been previously known on the subject. The three main methods of administration up to the present time have been by insulation, by sparks, and by shocks.

I now venture to add a fourth method, that of the *induced current* produced by static electricity, and capable, like the currents induced by magnets and the voltaic circuit, of causing physiological tetanus. In other words, by a simple arrangement, the frictional machine may be converted into a machine which will do all the work of the best faradic machine.

We thus have at command in a frictional machine all of faradism, in addition to the static electricity. For working purposes we have all the advantages of both systems.

A superficial trial shows one difference in favor of the static-induced, as compared with the galvanic or magneto-induced current. The static-induced both produces more efficient contractions and gives less pain to the patient, where pain would be produced by any of the three. With it the whole motor apparatus of the body may be called in action at its several points, nerves stimulated, and other effects produced, just as with faradism.

The current may be regulated to a nicety by means of the discharging rod, ranging from an almost imperceptible tingle up to extreme and rigid flexion of the arms, should, for instance, the electrodes be held in the hands.

This, then, is an entirely new current in medicine, and it is not a little curious that with all the experience with frictional machines, it should remain undiscovered up to the present day.

THERAPEUTICAL CONSIDERATIONS.

Whatever form of electricity we make use of, we have to do, of course, with one and the same force, represented by the voltaic, induced, static, and other phases. True as this may be in a general sense in medical electricity as in the laboratory and in the arts, it would be ridiculous to expect equivalent results from an indiscriminate employment of any one of these various forms. Wide differences in indications for use and curative results exist, both in the nature of the electricity used and in the manner of its use.

If, then, both in nature and method, static electricity has therapeutical effects peculiarly its own, if both medical practice and analogies of physics teach this, we are called upon, as practical physicians, to accept the fact.

But static electricity, as we have already seen, has never had fair play in modern medicine. The older practitioners (1740 to 1800) have left us glowing records of its value—records embodied in a period of literature still full of fruitful suggestion in other branches of medicine, though in none more advanced than in the treatment by electricity. The physicist of to-day cannot neglect the work of Franklin, of Symmer, of Du Faye, of Cavendish, and the long line of the men of their time, who untold to view the mysteries of the new science. No more can the physician neglect, from a medical point of view, De Haen, Boze, Bertholon, Nollet, Wilkinson, Cavallo, Manduyt, and a dozen others. True, the mantle of their labors decked in a degree the new galvanism and the newer faradism, while in the act statical electricity dropped from sight. It found conscientious revivers in Sir William Gull, Golding Bird, and Wilks, in 1850 and thereabouts, and it is gratifying to note in their writings the highest appreciation of its merits. When at last it fell from their hands again abandoned, it was only and simply because of the inconvenience of administering it. The machine of their day refused to work in the damp of London fogs, and it was necessary in the electrical room of Guy's Hospital to keep a large fire constantly burning to dry the air; and even to-day, in Paris, one may visit the rooms of a practitioner, heated summer and winter.

But these disadvantages have now been removed. Statical electricity was again revived, and with great success, by Professors Clemens in Germany and Sewanda in Austria. In France, its revival has already received a notable impetus from the labors of Dr. Vigouroux, though as yet we have no published record of his opinions and results.

Statical electricity, then, may now again fairly come before the profession of America to be judged on its merits.

CONCLUSIONS.

First—Static electricity, as a curative agent in medicine, may fairly be placed on a level with galvanism and faradism. In certain diseased conditions, it is superior to either.

By insulation and sparks, paralyzed muscles and nerves are stimulated just as by induced currents.

Second—The main objections to static electricity are based upon the inconvenience, the working uncertainties of the apparatus, and the difficulty of measuring and controlling the electricity administered.

These objections fail to have weight with the use of a modern improved Holtz machine, and a proper electrometer.

Third—Insulation and sparks, both or either, more notably sparks, relieve cutaneous anaesthesia more quickly than galvanism or faradism. In hemiplegia with organic lesion, numbness and anaesthesia is at once relieved by this treatment.

Fourth—Decided motor improvement may be obtained in hemiplegia of long standing. The dragging of the toe, the tread on the outer side of the foot, the outer swing to the leg, the rigidity at the knee, elbow and shoulder, may all be to a very apparent degree, and often entirely, removed.

The contracture at the wrist and fingers is incurable.

Fifth—In paraplegia and systemic diseases of the spinal cord in general, there is every reason to expect that by means of long and strong sparks to the spine, that results not now attainable may be reached.

A distinguished and careful observer,* familiar with the treatment by sparks, thinks that "patients suffering from paraplegia who are now benefited by the constant current, were previously cured by static electricity."

Sixth—In the sense that medicines are tonic, the positive electrical insulation is tonic.

Seventh—Static electricity by insulation and sparks is principally useful in conditions of paralysis, spasm, and neuralgia, and pre-eminently in subacute and chronic rheumatic affections, whether tendinous, fascial, or muscular.

Eighth—Static electricity cures disease, as other forms of electricity do, by stimulations of nerves and muscles, organs, and nerves of special sense. It likewise cures, by aid of the spark, in virtue of a sharp, deep, mechanical agitation of the diseased tissue, acting in this instance like physical exercise and massage, by causing alteration of nutrition.

But above and beyond these methods of curative action is the principle, as lately established by Brown-Séquard, of reflex action in remote parts by peripheral irritation of the terminal distribution of the sensory nerves. In electrification by insulation, electricity of high tension is actively accumulating on and beneath the skin, *i. e.*, the nerve distribution, and as actively discharging; the effects of static electricity are then in this instance produced from the periphery: and, owing to the fact that the electrification is general and the tension high, no other form of electricity offers equal promise in the treatment of diseases or conditions that can be affected either in a sedative or stimulating manner from the general peripheral nerve-distribution. The recent experiments of Brown-Séquard lead us to believe that many diseases may be thus acted upon.

Ninth—The invention by the author of a method of obtaining an interrupted static induction current from a frictional electrical machine adds to medical electricity a new and practical means of electrical treatment. This current is more agreeable in its administration than ordinary induction currents. Both nerves and muscles are stimulated by it to a higher degree than is possible by means of any other induction current now in use, and a corresponding advance in the efficacy of electrical therapeutics in these two directions may be confidently expected.

The new current, furthermore, greatly enlarges the scope of static electrical machines in medicine by combining in a single machine all the advantages both of static and induction electricity.

* Dr. Wilks, a physician of long experience at Guy's Hospital, London, where static electricity was formerly largely used.

SIZES AND KINDS OF HOLTZ MACHINES ADAPTED TO MEDICAL USES.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR—As the time at my disposal will hardly allow me the pleasure of answering separately nearly two hundred letters from your subscribers or readers in all parts of the Union, asking in the main, pretty much the same questions concerning details on the subject of electro-statical therapeutics suggested by my paper on the subject published in the *Record* of April 2d, and 9th, will you kindly allow me brief space to respond simply to the main points, viz., what size and kind of improved Holtz machine to get?

Two main considerations at once arise:

First—That the machine shall be large, powerful and complete.

Second—That it will work in all weathers, wet or dry.

The tenor of the letters received indicates a desire to make small machines (one foot diameter, single plate) answer medical purposes. I am confident that this would end only in disappointment to their possessors and detriment to the subject in general. A two-cell galvanic battery will not answer where forty cells may or should be used. Both tension and quantity should be great in modern statical electrization. Simple length of spark between the discharging rods is not a fair criterion, for this spark, in a machine giving electricity of a very high tension, may at the same time be thin, wavering and infrequent. It should be strong, thick, straight and frequent, *i. e.*, denoting quantity, as well as tension. With the patient simply sitting in a chair on the insulating platform—the latter, and not the body of the patient, being connected to the machine by a polished brass rod—the operator should be able to draw, by aid of a “ground connection,” sparks from one and a half to six inches in length, each spark distinct and clearly defined. The thin, divided, “sputtering” sparks, derived from small machines, are stinging and painful, and, I believe, comparatively ineffective.

Static electricity is probably seldom tested at its full worth, for the reason that it has not been given strong enough, though here, as in all electrization, the operator should first test the strength upon himself in order to determine what can be properly borne by patients. But, by “strength” of administration, we do not refer to the shock from Leyden jars. The latter is seldom indicated.

It is better, then, to get a large Holtz machine, or not get one at all. And by a large machine, from a medical standpoint, is meant a double Holtz of from twenty to thirty-inch revolving plates, or a quadruple Holtz, with fifteen-inch or larger plates. My own machines are double Holtz (two revolving and two stationary glass plates), constructed by Andriveau, Paris, on the exact model of Dr. Vigouroux's machines, used at Prof. Charcot's clinic. From careful examination of their work, I think that equally as good machines may be found at J. & H. Berge's, formerly Hall & Benjamin, scientific instrument makers, 191 Greenwich street, though beyond this opinion I have no interest or responsibility in the matter, as some of my correspondents have apparently supposed. A four-plate fifteen-inch Holtz, or a twenty-inch double Holtz is then, I venture to suggest, the *smallest* machine that should be bought.

Feeling assured, finally, that if a large and unfailing machine be procured, that in other details it will give a good account of itself, I close with the hope that my correspondents will accept this brief note as a general answer.

Very truly yours,

WILLIAM J. MORTON, M. D.

ESTABLISHED 1850.

J. & H. Berge,

Nos. 191 Greenwich Street, and 95 John Street,

NEW YORK CITY.

Importers and Manufacturers of

Chemical and Philosophical Apparatus

OF ALL KINDS.

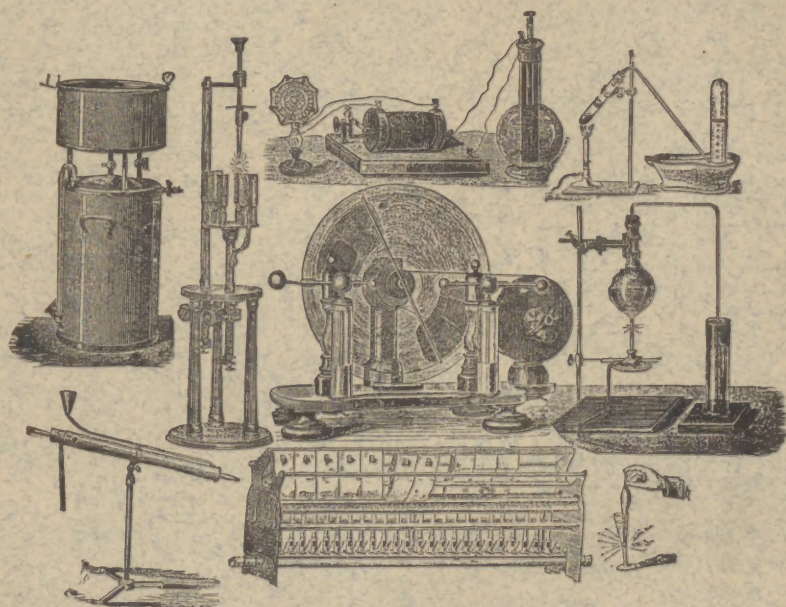
Bohemian Glassware, German Chemical Porcelainware.

ASSAYERS' SUPPLIES, ELECTRICAL
APPARATUS, PURE CHEMICALS,
Etc., Etc.,

KEPT IN STOCK, IN LARGE VARIETY.

FINE METAL WORK AND REPAIRING, A SPECIALTY.

IMPROVED
HOLTZ ELECTRICAL MACHINES,
FOR THE
MEDICAL ADMINISTRATION
— OF —
Statistical Electricity



J. & H. BERGE,
MANUFACTURERS,
191 Greenwich St., New York.